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Washington, D.C. 20231  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/623,304

02/21/2001

Christopher Silvia

018512-00041

3840

7590

03/22/2002

Annette Parent  
Townsend & Townsend & Crew  
8th Floor  
Two Embarcadero Center  
San Francisco, CA 94111-3834

EXAMINER

BUNNER, BRIDGET E

ART UNIT

PAPER NUMBER

1647

DATE MAILED: 03/22/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.



## UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, DC 20231  
www.uspto.gov

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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09/623,304

EXAMINER

Bunner, B.

ART UNIT

PAPER

11

DATE MAILED:

**Please find below and/or attached an Office communication concerning this application or proceeding.**

## Commissioner of Patents

The communication filed 15 June 2001 (Paper No. 6) is not fully responsive to the Office communication mailed 20 April 2001 (Paper No. 4) for the reason(s) set forth on the attached Notice To Comply With The Sequence Rules or CRF Diskette Problem Report. Applicant must comply with the requirements of the sequence rules (37 CFR 1.821 - 1.825) before the application can be examined under 35 U.S.C. §§ 131 and 132.

Since the reply appears to be bona fide attempt to comply with the requirements of the sequence rules (37 CFR 1.821 - 1.825), applicant is given a TIME PERIOD of ONE (1) MONTH from the mailing date of this communication within which to correct the deficiency so as to comply with the sequence rules (37 CFR 1.821 - 1.825) in order to avoid abandonment of the application under 37 CFR 1.821(g). EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bridget E. Bunner, Art Unit 1647, whose telephone number is (703) 305-7148. The examiner can normally be reached on 8:00-5:30 M-F. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Kunz, can be reached at (703) 308-4623. The fax number for the organization where this application or proceeding is assigned is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0196.

Please note the following:

A reply to a notice to comply with the sequence rules should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office.

Please direct all replies to the United States Patent and Trademark Office via one (1) of the following:

1. Electronically submitted through EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>>, EFS Submission User Manual - ePAVE)

2. Mailed to:  
U.S. Patent and Trademark Office  
Box Sequence, P.O. Box 2327  
Arlington, VA 22202

*Gary L. Kunz*  
GARY L. KUNZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600

3. Mailed by Federal Express, United Parcel Service or other delivery service to:  
U. S. Patent and Trademark Office  
2011 South Clark Place  
Customer Window, Box Sequence  
Crystal Plaza Two, Lobby, Room 1B03  
Arlington, Virginia 22202

4. Hand Carried directly to the Customer Window at:  
2011 South Clark Place  
Crystal Plaza Two, Lobby, Room 1B03, Box Sequence,  
Arlington, Virginia 22202

BEB  
Art Unit 1647  
14 March 2002

<b>Notice to Comply</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/623,304	SILVIA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Bridget E. Bunner	1647	

**NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES**

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- ☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).
- ☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- ☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- ☒ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- ☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- ☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- ☐ 7. Other:

**Applicant Must Provide:**

- ☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- ☐ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- ☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216

For CRF Submission Help, call (703) 308-4212

PatentIn Software Program Support

Technical Assistance.....703-287-0200

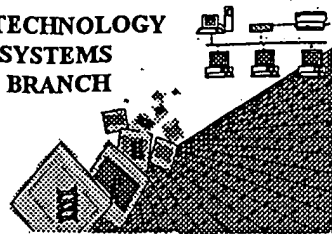
To Purchase PatentIn Software.....703-306-2600

**PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR REPLY**

*SP-101 B* *Bunker*

## RAW SEQUENCE LISTING ERROR REPORT

BIOTECHNOLOGY  
SYSTEMS  
BRANCH



10D12

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/623,304  
Source: 1647  
Date Processed by STIC: 3/7/02

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: [patin3help@uspto.gov](mailto:patin3help@uspto.gov) or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:  
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7<sup>th</sup> Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202  
Or  
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002



1647

Does Not Comply  
Corrected Diskette Needed

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002

TIME: 10:29:16

Input Set : A:\-4-1.app

Output Set: N:\CRF3\03072002\I623304.raw

3 <110> APPLICANT: Silvia, Christopher  
 4 Yu, Weifeng  
 5 ICAGEN, Inc.  
 7 <120> TITLE OF INVENTION: Identification and Expression of Human Kir5.1  
 9 <130> FILE REFERENCE: 018512-000410US  
 11 <140> CURRENT APPLICATION NUMBER: US 09/623,304  
 12 <141> CURRENT FILING DATE: 2001-02-21  
 14 <150> PRIOR APPLICATION NUMBER: US 60/076,612  
 15 <151> PRIOR FILING DATE: 1998-03-03  
 17 <150> PRIOR APPLICATION NUMBER: WO PCT/US99/04549  
 18 <151> PRIOR FILING DATE: 1999-03-02  
 20 <160> NUMBER OF SEQ ID NOS: 4  
 22 <170> SOFTWARE: PatentIn Ver. 2.1  
 24 <210> SEQ ID NO: 1  
 25 <211> LENGTH: 383  
 26 <212> TYPE: PRT  
 27 <213> ORGANISM: Homo sapiens  
 29 <220> FEATURE:  
 30 <223> OTHER INFORMATION: human Kir5.1 alpha subunit monomer of inward  
 31 rectifier potassium channel  
 33 <220> FEATURE:  
 34 <221> NAME/KEY: PEPTIDE  
 35 <222> LOCATION: (351)..(383)  
 36 <223> OTHER INFORMATION: tail region  
 38 <400> SEQUENCE: 1  
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 40 1 5 10 15  
 41 Tyr Pro Gly Tyr Pro Pro Glu His Ile Ile Ala Glu Lys Arg Arg Ala  
 42 20 25 30  
 43 Arg Arg Arg Leu Leu His Lys Asp Gly Ser Cys Asn Val Tyr Phe Lys  
 44 35 40 45  
 45 His Ile Phe Gly Glu Trp Gly Ser Tyr Val Val Asp Ile Phe Thr Thr  
 46 50 55 60  
 47 Leu Val Asp Thr Lys Trp Arg His Met Phe Val Ile Phe Ser Leu Ser  
 48 65 70 75 80  
 49 Tyr Ile Leu Ser Trp Leu Ile Phe Gly Ser Val Phe Trp Leu Ile Ala  
 50 85 90 95  
 51 Phe His His Gly Asp Leu Leu Asn Asp Pro Asp Ile Thr Pro Cys Val  
 52 100 105 110  
 53 Asp Asn Val His Ser Phe Thr Gly Ala Phe Leu Phe Ser Leu Glu Thr  
 54 115 120 125  
 55 Gln Thr Thr Ile Gly Tyr Gly Tyr Arg Cys Val Thr Glu Glu Cys Ser  
 56 130 135 140

must give location and explain  
what residue Xaa represents - see  
p. 4

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002

TIME: 10:29:16

Input Set : A:\-4-1.app

Output Set: N:\CRF3\03072002\I623304.raw

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58 145 150 155 160
59 Asn Thr Phe Ile Ile Gly Ala Ala Leu Ala Lys Met-Ala Thr Ala Arg
60 165 170 175
61 Lys Arg Ala Gln Thr Ile Arg Phe Ser Tyr Phe Ala Leu Ile Gly Met
62 180 185 190
63 Arg Asp Gly Lys Leu Cys Leu Met Trp Arg Ile Gly Asp Phe Arg Pro
64 195 200 205
65 Asn His Val Val Glu Gly Thr Val Arg Ala Gln Leu Leu Arg Tyr Thr
66 210 215 220
67 Glu Asp Ser Glu Gly Arg Met Thr Met Ala Phe Lys Asp Leu Lys Leu
68 225 230 235 240
69 Val Asn Asp Gln Ile Ile Leu Val Thr Pro Val Thr Ile Val His Glu
70 245 250 255
71 Ile Asp His Glu Ser Pro Leu Tyr Ala Leu Asp Arg Lys Ala Val Ala
72 260 265 270
73 Lys Asp Asn Phe Glu Ile Leu Val Thr Phe Ile Tyr Thr Gly Asp Ser
74 275 280 285
N--> 75 Thr Gly Thr Ser His Gln Ser Arg Ser Ser Tyr Val Pro Arg Xaa Ile
76 290 295 300
77 Leu Trp Gly His Arg Phe Asn Asp Val Leu Glu Val Lys Arg Lys Tyr
78 305 310 315 320
79 Tyr Lys Val Asn Cys Leu Gln Phe Glu Gly Ser Val Glu Val Tyr Ala
80 325 330 335
81 Pro Phe Cys Ser Ala Lys Gln Leu Asp Trp Lys Asp Gln Gln Leu His
82 340 345 350
83 Ile Glu Lys Ala Pro Pro Val Arg Glu Ser Cys Thr Ser Asp Thr Lys
84 355 360 365
85 Ala Arg Arg Arg Ser Phe Ser Ala Val Ala Ile Val Ser Ser Trp
86 370 375 380
89 <210> SEQ ID NO: 2
90 <211> LENGTH: 1509
91 <212> TYPE: DNA
92 <213> ORGANISM: Homo sapiens
94 <220> FEATURE:
95 <223> OTHER INFORMATION: human Kir5.1 alpha subunit monomer of inward
96 rectifier potassium channel
98 <220> FEATURE:
99 <221> NAME/KEY: unsure
100 <222> LOCATION: (1279)
101 <223> OTHER INFORMATION: n = a, g, c or t
103 <400> SEQUENCE: 2
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105 agcagctatc atattatcaa tgcggacgca aaatacccag gctaccgccc agagcacatt 120
106 atagctgaga agagaagagc aagaagacga ttacttcaca aagatggcag ctgtaatgtc 180
107 tacttcaagc acatttttgg agaattggga agctatgtgg ttgacatctt caccactctt 240
108 gtggacacca agtggcgcca tatgtttgtg atattttctt tatcttatat tctctcgtgg 300
109 ttgatatttg gctctgtctt ttggctcata gcctttcatc atggcgatct attaaatgat 360
110 ccagacatca caccttgtgt tgacaacgtc cattctttca caggggcctt tttgttctcc 420

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## RAW SEQUENCE LISTING

DATE: 03/07/2002

PATENT APPLICATION: US/09/623,304

TIME: 10:29:16

Input Set : A:\-4-1.app

Output Set: N:\CRF3\03072002\I623304.raw

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111 ctagagaccc aaaccacccat aggatatggt tatcgctgtg ttactgaaga atgttctgtg 480
112 gccgtgctca tggatgacct ccagtcacatc ttaagttgca tcataaatac ctttatcatt 540
113 ggagctgcct tggccaaaat ggcaactgct cgaaagagag cccaaacccat tcgtttcagc 600
114 tactttgcac ttataggtat gagagatggg aagctttgcc tcagtggcg cattggtgat 660
115 tttcggccaa accacgtggt agaaggaaca gttagagccc aactttctcg ctatacagaa 720
116 gacagtgaag ggaggatgac gatggcattt aaagacctca aattagtcaa cgaccaaatac 780
117 atcctggtca ccccggtaac tattgtccat gaaattgacc atgagagccc tctgtatgcc 840
118 cttgaccgca aagcagtgc caaagataac tttgagattt tggtgacatt tatctatact 900
119 ggtgattcca ctggaacatc tcaccaatct agaagctcct atgttccccg araaattctc 960
120 tggggccata ggtttaatga tgtcttgaa gttaagagga agtattaca agtgaactgc 1020
121 ttacagtttg aaggaagtgt ggaagtatat gccccctttt gcagtgccaa gcaattggac 1080
122 tggaaagacc agcagctcca catagaaaaa gcaccaccag ttcgagaatc ctgcacgtcg 1140
123 gacaccaagg cgagacgaag gtcatttagt gcagttgcca ttgtcagcag ctggtgaaaa 1200
124 ccctgaggag accaccatt tcgccacaca tgaatatagg gaaacacctt atcagaaagc 1260
W--> 125 tctccctgac tttaaacang aatcctctgt wgaatcccaa atgttagtcc taaaattgca 1320
126 attatgagg ctaccactga atcattttat ctttcagcca atcaagtctg tgtaaactgc 1380
127 gcttttttga aagtgttatg gctatgtttt atgatgatgc tgggtaagta gagtaagtta 1440
128 aacttggtaa aagataatct aaaaattcca tagttctcag ttattaaaat ttttctgtt 1500
129 ccggaattc 1509
131 <210> SEQ ID NO: 3
132 <211> LENGTH: 24
133 <212> TYPE: DNA
134 <213> ORGANISM: Artificial Sequence
136 <220> FEATURE:
137 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
139 <400> SEQUENCE: 3
140 cctaagggca cagcaaagaa tgag 24
142 <210> SEQ ID NO: 4
143 <211> LENGTH: 20
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147 <220> FEATURE:
148 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
150 <400> SEQUENCE: 4
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RAW SEQUENCE LISTING ERROR SUMMARY

DATE: 03/07/2002

PATENT APPLICATION: US/09/623,304

TIME: 10:29:18

Input Set : A:\-4-1.app

Output Set: N:\CRF3\03072002\I623304.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 303

Seq#:2; N Pos. 1279

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002

TIME: 10:29:18

Input Set : A:\-4-1.app

Output Set: N:\CRF3\03072002\I623304.raw

M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:288

M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:1260